

I claim:

- SNB A3}*
1. A warp-knitted fabric of at least three-bar construction, said fabric comprised of multifilament synthetic pile yarns on the technical back which are raised or broken to produce a plush surface, and monofilament synthetic ground yarns on the technical face, wherein at least one of said 5 yarns and fabric are hydrophilic.
- SNB A1*
2. The fabric of Claim 1, wherein said pile yarns are comprised of microdenier filaments.
3. The fabric of Claim 1, wherein said pile yarns have a denier of at least 50.
4. The fabric of Claim 1, wherein said monofilament synthetic ground yarns have individual deniers of at least 10.
5. The fabric of Claim 1, wherein said pile yarns are knitted in a 1-0, 4-5 stitch pattern and said ground yarns are comprised of at least two sets, one set being knitted in a 1-0, 0-1 stitch pattern, and another set being 10 15 knitted in a 1-0, 2-3 stitch pattern.
6. The fabric of Claim 1, wherein said monofilament synthetic ground yarns have a combined denier that does not exceed that of the pile yarn.
- SNB A4}*
7. The fabric of Claim 1, wherein at least one of said yarns and fabric are chemically treated with an anionic-ethoxylated sulfonated polyester 20 (surfactant/stabilizer agent) and a high molecular weight ethoxylated polyester (lubricant/softener agent).

8. The fabric of Claim 7, wherein said agents are mixed to provide about 1% - 8% OWF and about 0.1% - 1.0% solids OWF.
9. The fabric of Claim 8, wherein said agents are added at about 1.5% OWF each.
- Sub A5 } 5 10. The fabric of Claim 7, wherein at least one of said yarns and fabric is chemically treated by at least one of adding an anti-pathogenic agent, dyeing, scouring, optically brightening, bulking, and combinations thereof.
- Sub A1 } 11. The fabric of Claim 1, wherein the fabric has an absorbency of at least 5 ml of water before overflow for a 10cm X 10cm sample.
- Sub A6 } 10 12. The fabric of Claim 1, wherein the fabric has wicking of at least 150mm of rise of water in 30 minutes.
- Sub A6 } 13. The fabric of Claim 1, wherein said plush surface provides for sharp definition printing.
- Sub A6 } 14. The fabric of Claim 1, wherein said plush surface has substantially instantaneous moisture dissipation.
- Sub A6 } 15. The fabric of Claim 1, wherein the fabric is at least one of absorbent, wicking, hydrophilic, printable, launderable, cleanable, durable, dimensionally stable, non-fraying, color fast, and combinations thereof.

- RECEIVED
SEARCHED
INDEXED
SERIALIZED
FILED
APR 22 1998
CLERK'S OFFICE
U.S. DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA
16. A process for manufacturing a hydrophilic dimensionally stable warp-knitted fabric having a plush, absorbent, wicking, raised surface on its technical back, said process comprising the steps of:
- a. warp-knitting a fabric in which the technical back is comprised of a multifilament synthetic yarn having a filament denier of 1.1 or less that is knitted in a way as to produce an extended underlap of yarn on said technical back, and the technical face is comprised of monofilament ground yarns in a dimensionally stable stitch pattern,
 - b. raising or breaking the multifilament yarns comprising said extended underlap of yarn on said technical back of said fabric, thereby forming a plush raised surface, and
 - c. chemically treating at least one of the yarns and fabric to make the plush raised surface hydrophilic, absorbent, and wicking.
17. The process of Claim 16, wherein said pile yarns are knitted in a 1-0, 4-5 stitch pattern.
18. The process of Claim 16, wherein said ground yarns are comprised of two sets of ground yarns, knitted in a 1-0, 0-1 and 1-0, 2-3 stitch pattern, respectively.
19. The process of Claim 16, wherein said monofilament yarns are selected to have individual deniers of at least 10, and wherein said monofilament synthetic ground yarns are selected to have a combined denier that does not exceed that of the pile yarn.

20. The process of Claim 16, wherein the chemically treating step includes treating at least one of the yarns and fabric with an anionic-ethoxylated sulfonated polyester (surfactant/stabilizer agent) and a high molecular weight ethoxylated polyester (lubricant/softener agent).
- 5 21. The process of Claim 20, wherein said agents are mixed to provide about 1% - 8% OWF and about 0.1% - 1.0% solids OWF.
22. The process of Claim 21, wherein said agents are added at about 1.5% OWF each.
- 10 23. The process of Claim 16, wherein the chemically treating step includes at least one of adding an anti-pathogenic agent, dyeing, scouring, optically brightening, bulking, and combinations thereof
- 15 24. An absorbent, wicking, printable fabric or product produced by the method of Claim 16.
25. The fabric of Claim 24, wherein the fabric is at least one of absorbent, wicking, hydrophilic, printable, launderable, durable, dimensionally stable, non-fraying, color fast, and combinations thereof.
- 20 26. A fabric item including at least one of a polyester fabric and material having at least one surface which is at least one of absorbent, wicking, hydrophilic, printable, launderable, durable, dimensionally stable, non-fraying, color fast, and combinations thereof.

- RECORDED
SEARCHED
INDEXED
SERIALIZED
FILED
27. The fabric item of Claim 26, wherein said polyester fabric or material is selected from the group of warp-knitted microdenier, warp-knitted, knitted, woven, flat woven, flocked, non-woven, and combinations thereof.
28. The fabric item of Claim 27, wherein said polyester fabric or material is chemically treated to be hydrophilic.
- 5 29. The fabric item of Claim 28, wherein the fabric or material is chemically treated with an anionic-ethoxylated sulfonated polyester (surfactant/stabilizer agent) and a high molecular weight ethoxylated polyester (lubricant/softener agent).
- 10 30. The fabric item of Claim 29, wherein said agents are added at about 1% - 8% OWF each.
31. The fabric item of Claim 30, wherein said agents are added at about 1.5% OWF each.
- 15 32. The fabric item of Claim 26, wherein said item includes at least two layers of said polyester fabric or material.
33. The fabric item of Claim 26, wherein said polyester fabric or material contains hydrophilic fibers or yarns.
34. The fabric item of Claim 26, further comprising a layer of absorbent material adjacent said polyester fabric or material.